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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,153	04/01/2004	Frank P. Uckert	PE0669USDIVI	9013

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EXAMINER

CHOI, LING SIU

ART UNIT PAPER NUMBER

1713

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/816,153	<b>Applicant(s)</b> UCKERT ET AL.	
	<b>Examiner</b> Ling-Siu Choi	<b>Art Unit</b> 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/1/04, 9/27/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Application is a Division of US Application Serial Number 10/139,002 filed May 3, 2002, which claims benefit of 60/289,333 filed May 7, 2001.
2. Claims 1-19 were canceled and Claim 20 are now pending.

### ***Claim Objections***

3. Claim 20 is objected to because of the following informalities: "or" is suggested to be changed to --and optionally, --.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. **The following is a quotation of the second paragraph of 35 U.S.C. 112:**

**The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

5. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20, lines 28-32, the recitation "with the proviso that....treating the polymer

Art Unit: 1713

with a perfluoroalkylating reagent.....in the presence of a ruthenium (II) catalyst” causes confusion because the present claim is drawn to a process to prepare a polyfluorene having perfluoroalkyl groups. If the polymer has perfluoroalkyl group prior to the process, the present claim should read a process to perfluoroalkylate the perfluoroalkyl-containing polyfluorene.

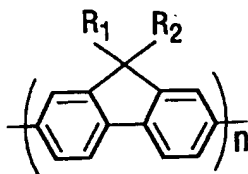
### ***Allowable Subject Matter***

6. Claim 20 is allowable over the closest references: Pei et al. (US 5,900,327).

A process to prepare fluorene polymer having perfluoroalkyl groups, comprising	
A	forming a polymer having at least one first monomeric unit having a Formula I and I(a) with the proviso that the polymer contains <b>at least one R substituent of <math>-C_{\psi}F_{2\psi+1}</math></b>
B	treating the polymer with a perfluoroalkylating reagent selected from (i) a perfluoroalkyl iodide and (ii) a perfluoroalkylsulfonyl chloride in the presence of a ruthenium (II) catalyst

(summary of claim 20)

Pei et al. disclose a process to prepare a polymer represented in the general formula of Fig. 1C



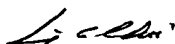
Art Unit: 1713

wherein  $R_1$  is an aliphatic group which includes at least 1 heteroatom-containing polar group, wherein " $R_1$  typically contains at least about 1 carbon in its aliphatic portion and especially from 1 to 30 carbon atoms" and the polar group comprising ester group and  $R_2$  is an alkyl group containing from about 1 to about 15 carbons ( col. 4, lines 30-48; col. 5, lines 7-10; claim 1). However, Pei et al. do not teach or fairly suggest a process to prepare a polymer having at least one substituent having  $-C_{\psi}F_{2\psi+1}$ .

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.



LING-SUI CHOI  
PRIMARY EXAMINER

June 5, 2006